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# Laparoscopic Management of Transcervical Fallopian Tube Prolapse

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## ABSTRACT

**Introduction:** Fallopian tube prolapse (FTP) is a rare but increasingly recognized postoperative complication of total hysterectomy, but few reports relate FTP to supracervical hysterectomy.

**Case:** A 35-year-old, G2P2, patient with a history of recurrent fibroid prolapse received a supracervical hysterectomy. One week postoperatively, she was treated for infection, and 1 month later a scheduled Pap smear returned benign results and noted a rare cluster of glandular cells. Two months after the hysterectomy, the patient presented to the outpatient clinic with vaginal discharge and dyspareunia. The patient was diagnosed with FTP and was treated with total salpingectomy using a combined vaginal and laparoscopic approach.

**Conclusion:** Transcervical FTP is a rare complication following supracervical hysterectomy. Increasing awareness of the condition will allow for fewer delays in diagnosis and treatment. A laparoscopic total salpingectomy provides effective treatment with minimal invasiveness.

**Key Words:** Salpingectomy, Transcervical fallopian tube prolapse, Laparoscopy, Dyspareunia.

## INTRODUCTION

Fallopian tube prolapse (FTP) is the herniation of the fallopian tubes into the vaginal vault. FTP is a rare postoperative complication of hysterectomies. One study found that out of 8444 women who had undergone hysterectomies, 17 eventually developed this complication.[1] The interval between the hysterectomy and the time of presentation ranges from 2 weeks to 9 years.[2] One study reported spontaneous resolution of FTP without treatment, but FTP is more often surgically managed; one study suggested a combined vaginal and laparoscopic approach as the standard management of FTP into the vaginal vault.[1,3]

Compared to total hysterectomy, supracervical hysterectomy provides the same outcomes in terms of bladder, bowel, and sexual function but requires a shorter postoperative recovery period.[4] FTP can occur after either total abdominal or vaginal hysterectomy, but few reports have commented on FTP following supracervical hysterectomy.[5] The primary objective of this article is to present a rare case of transcervical FTP following a supracervical abdominal hysterectomy for recurrent fibroid prolapse and to present a minimally invasive approach for its management.

## CASE REPORT

A 35-year-old, G2P2, woman presented to the emergency department (ED) in June 2008 with complaints of a mass protruding from her vagina during urination. For the 2 weeks prior to presentation, the patient had heavy vaginal bleeding with blood clots. The patient had a history of multiple fibroids and underwent 2 hysteroscopies for irregular bleeding, followed by a vaginal myomectomy for a prolapsed submucosal fibroid followed by 2 more hysteroscopies including one hysteroscopic myomectomy. Histopathological assessments of the endometrial curettings obtained at the time of these surgeries were noncontributory. The patient presented to the ED with severe vaginal bleeding. Initially her hematocrit was 26%. It continued to drop to 22%, and she was transfused with 2 units of packed red blood cells before entering the operating room.

While the patient was anesthetized, the cervix was examined and found to be approximately 5cm to 6cm, dilated

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**Précis:** A rare case of transcervical fallopian tube prolapse following supracervical hysterectomy was surgically managed using a combined vaginal and laparoscopic total salpingectomy.

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with a necrotic, foul-smelling fibroid visualized at the external os. Two loop sutures were placed around the fibroid as cephalad in the uterine cavity as possible and were cinched down. A clamp was then placed beneath these sutures, and part of the fibroid was removed. There was some oozing present, as well as remaining fibroid in the uterine cavity. The decision was made to proceed with an emergent laparotomy secondary to being unable to completely remove the fibroid vaginally. Following a midline laparotomy, the uterus was examined and found to be immobile and occupied mostly by a submucosal fibroid. It was felt that, even if a myomectomy were attempted, there would not be enough uterus to salvage, and the decision was made to proceed with a supracervical hysterectomy. The uterus was amputated with Bovie cautery, and the cervical stump was reapproximated with a 0 Vicryl suture in figure-of-8 fashion. All pedicles were examined and found to be hemostatic.

The patient was discharged to home on the third postoperative day. Ten days after the operation, she presented to the ED with increasing abdominal pain, fever, and chills. She was readmitted and was noted to have leukocytosis and a fluid collection in the abdomen. Treatment was started with intravenous triple antibiotic therapy. Her symptoms subsequently improved, and the patient remained afebrile for 48 hours.

One month later, the patient presented for a scheduled Papanicolaou (Pap) test, and the examination was performed without abnormal findings. The Pap smear results were negative for intraepithelial neoplasia or malignancy; however, a rare cluster of probable glandular cells was noted. A month later, the patient presented to the outpatient clinic with increasing vaginal discharge and dyspareunia. On examination, a soft, pink, and tubular structure with a fimbriated end was identified at the external os. It did not bleed when touched. A diagnosis of fallopian tube prolapse was assumed, and a CT scan was performed, in which both ovaries were identified along with the post-hysterectomy changes and minimal free fluid in the cul-de-sac. The decision was made to perform an operative laparoscopy.

Using an open laparoscopy approach, the pelvis was found sealed with extensive adhesions. Both adnexa were carefully dissected from the surrounding structures, and the right fallopian tube and ovary were identified in their entirety. On the other side, the abdominal portion of the left fallopian tube was buried under the adhesions between the rectosigmoid and the lateral pelvic sidewall. Identification of the left fallopian tube was confirmed by performance of traction on the prolapsed part while observing with laparoscopy. After identifying the left ureter, the left fallopian tube was cut across using tripolar cautery and was dissected down to the cervical stump where salpingectomy of the intraabdominal portion was performed. Of note, when the tubal lumen was entered, a sudden gush of pneumoperitoneum gas from the vagina was observed with a characteristic sound.

Subsequently, the vaginal part of the fallopian tube was grasped with a ring forceps and excised. The bleeding points of the cervical stump were cauterized to prevent subsequent bleeding. The cervical stump was then re-evaluated, and the endocervical epithelium was cauterized with monopolar cautery. Pneumoperitoneum was recreated and copious irrigation of the pelvic cavity was performed to ensure hemostasis and to ensure complete sealing of the cervical stump. Upon final assessment, the cervical stump lumen was found to be completely coagulated and obliterated. Subsequent histopathological assessment confirmed that the excised structure was the fallopian tube.

## DISCUSSION

Though rare, FTP is acknowledged as a postoperative complication of hysterectomy. To date, only around 100 cases of FTP into the vaginal vault have been reported.[6] Along with a fallopian tube of sufficient length to reach the vagina, a peritoneal closure defect, and adequate vaginal cuff opening, other suggested risk factors for the development of FTP include postoperative fever or infection, hematoma formation, and poor physical state of the patient.[1,2,6] The classic clinical presentation of FTP includes vaginal discharge and/or bleeding, dyspareunia, and lower abdominal discomfort.[6] Our patient had a postoperative fever and presented with some of the classic symptoms for FTP 2 months after a supracervical abdominal hysterectomy. Postoperative outcomes after supracervical hysterectomy are comparable to those after total hysterectomy, with no significant differences in bladder, bowel, or sexual functions.[4] Supracervical hysterectomies are associated with shorter duration of surgery, less blood loss, and a shorter hospital stay than that for total hysterectomy.[4] The current literature has few reports on the prevalence of fallopian tube prolapse occurring after supracervical hysterectomy. FTP occurred in our case despite the closure of the cervical stump during the subtotal hysterectomy signifying the importance of other risk factors like infection in the causation of this rare complication.

One month before receiving the FTP diagnosis, the patient underwent a routine Papanicolaou smear that revealed the rare finding of glandular cells. Given the context of the patient's recent hysterectomy, had FTP been more recognized as a complication, it is possible that the patient could have received treatment before becoming symptomatic. With the rare potential for spontaneous regression of the prolapsed tube, however, an aggressive approach to management may not be warranted and more evidence on the frequency of spontaneous resolution of FTP is needed.[1]

We used a combined vaginal and laparoscopic approach to manage this patient surgically. This approach provides effective treatment on an outpatient basis.[7] Total salpingectomy is the treatment of choice.[8] In partial salpingectomy, it is possible for the remaining salpinx to form adhesions and cause recurrent pain.[6] Additionally, the combined approach allows for effective adhesiolysis if required.

The immediate postoperative course was uncomplicated, and a pelvic examination 6 weeks later was unremarkable. A pelvic examination 1 year later showed normal external genitalia. The vaginal cuff was unremarkable, and the cervix was intact and healthy looking. There was minimal vaginal foul-smelling discharge and no bleeding. Appropriate swabs were taken for gonorrhea, chlamydia, and wet prep; all results were negative. There were no adnexal masses, fullness, or tenderness that could be identified. Twenty months later, the examination was unremarkable and the Pap smear was negative for abnormal cells.

## CONCLUSION

Fallopian tube prolapse is a rare but increasingly recognized postoperative complication of total hysterectomy and can also occur after supracervical hysterectomy. Increasing awareness of the condition will allow for fewer delays in diagnosis and treatment. A combined vaginal and laparoscopic total salpingectomy provides effective treatment with minimal invasiveness. Long-term follow-up is recommended. Further study is needed to reveal whether this rare condition is more or less likely after supracervical compared to total hysterectomy.

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